

GPCS458

Good Practice  
Case History

CHP at an engineering company  
Helical Technology Ltd



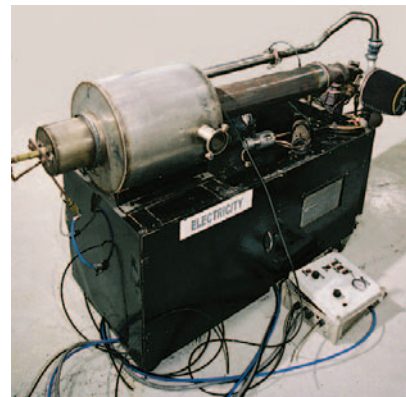
# Helical Technology Limited

Developing its own custom-built combined heat and power (CHP) scheme will allow Helical Technology Ltd to:

- Take advantage of CHP's significant cost and environmental benefits
- Solve potential electricity supply problems at its site in northwest England
- Avoid having to over-invest in a standard plant with too high a capacity rating for its requirements.

## Company profile

Helical Technology Ltd is a long-established, family-run engineering business, which was founded in 1962 by the present owners as Helical Springs Ltd. The company operates from a site at Lytham in Lancashire. Its product range of high-performance springs, piston ring seals, valve rotators and turbocharger actuators is sold primarily to customers in the automotive, diesel engine, truck and railway industries.



The CHP plant developed by Helical Technology Ltd

## Combined heat and power (CHP)

CHP, also termed cogeneration, is the simultaneous generation of power (usually electricity, but also mechanical power) and usable heat in a single process. The three key elements of a CHP plant are the prime mover (reciprocating engine, gas turbine, steam turbine, or a combination of these elements), the generator (or mechanical drive) and the heat recovery equipment. It is possible to use the heat to provide cooling, via the use of absorption chillers. Where power, heat and cooling are provided, this is often termed tri-generation.

When correctly designed, the overall efficiency of a CHP system can be in excess of 85% and when the electricity is used locally, transmission and distribution losses are also minimised. CHP can thereby contribute significantly to the primary energy, cost and carbon savings of a site.

CHP schemes that are certified as being Good Quality under the CHP Quality Assurance Programme are eligible for a range of fiscal benefits (e.g. Climate Change Levy exemption, Enhanced Capital Allowances and exemption from business rates).

## Comments from Helical Technology Ltd



“By developing our own CHP system, we have been able to ensure we can meet future energy capacity requirements while saving money and benefiting the environment.”

David Smalley  
Development Manager, Helical Technology Ltd

## CHP at Helical Technology

In 1999, following extensive research of the products available on the market, Helical Technology decided to develop its own CHP system. The following factors influenced the company's decision to pursue this option:

- Increased activity at the site meant that its power requirements were approaching the maximum capacity of its electricity supply cable
- The cost of upgrading the supply cable was significantly more than developing a custom-built CHP system, which could be used for space heating and hot water
- A CHP plant developed specifically for the company's needs would avoid the requirement to invest capital unnecessarily in a standard system with greater capacity than required
- Helical's confidence in its engineering capabilities
- Installation of a CHP plant would enable the company to meet its commitment to green energy, while allowing it to move towards exemption from the Climate Change Levy through the use of good quality CHP. This would result in even greater financial benefits.

The development and deployment of its own, uniquely engineered, CHP plant was therefore considered the most feasible solution to the company's potential energy supply problems.

## Development of the CHP plant

During the process of developing its CHP plant, Helical Technology pulled together resources from a range of organisations. This pool of expertise, along with Government grants, allowed the company to complete successfully the task it had set for itself. A number of commercial suppliers helped the company to develop fuel systems and to identify suitable compressors and turbines. The CHP scheme is currently being tested at the Lytham site.

## Contact the CHP Club for further information

If you would like information on any aspect of CHP, the CHP Club from the Carbon Trust is here to help. The Club provides impartial help and advice, and membership is free. Benefits include:

- Practical guidance
- Up-to-date news
- Events and site visits
- Site-specific advice including CHP feasibility assessments.

For additional information please visit [www.chpclub.com](http://www.chpclub.com) or ring the Carbon Trust Energy Helpline on 0800 58 57 94.

Tel 0800 58 57 94

[www.thecarbontrust.co.uk/energy](http://www.thecarbontrust.co.uk/energy)

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